

## VIDEO FRAME RENDERING ENGINE

## ABSTRACT

5 A circuit is provided which contains memory, logic, arithmetic and control circuitry needed to generate all or part of a frame for use in video processing and animation as well as digital signal and image processing. One or more such circuits are provided on an integrated circuit. A video or  
10 image frame generation system is constructed from one or more of these integrated circuits, optionally with additional memory circuitry, to provide exceptional performance in frame production for animation, particularly 3-D and other high performance applications such as medical imaging, virtual  
15 reality and real-time scene generation in video games and simulation environments. The circuit(s) are used to process high speed object-oriented graphics related streams such as proposed by MPEG 4, as well as act as a single chip JAVA engine with highly optimized numeric performance.  
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